

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003694**Date Inspected:** 22-Aug-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Liu Hua Jie and Huang Wen Pang			CWI Present:	Yes	No
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No N/A
				Delayed / Cancelled:	Yes	No N/A
Bridge No:	34-0006			Component:	OBG and SAS Tower Fabrication	

Summary of Items Observed:

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

Bay 4: Tower Diaphragm

This QA observed three ZPMC welders, ID #202842, ID #200149 and ID #062259 utilizing the FCAW Process in the 2F (Horizontal) Position with a 1.4mm diameter electrode, filler metal brand 71H Supercored, semi automatic with ZPMC WPS WPS-B-T-2132-2 to weld fillet root pass on fillet weld connection between tower diaphragm plate to diaphragm flange SSD1-SA291-2. Maximum gap measured between the connection was 6.0mm. The QA Inspector randomly observed ZPMC CWI Yu Dong Ping monitoring weld parameters.

This QA observed four ZPMC welders ID #066418, ID #037779, ID #066459, and ID #066268 SMAW(2G) PJP welding fill pass on 60mm stiffener plate to tower double diaphragm(bottom) SSD1-SA322 B/B weld joints 1, 2, 13 and 14. This QA also observed welder ID #048659, ID #053753, and ID #068918 SMAW(3G) PJP welding fill pass on 40mm web plate to 60mm stiffener plate of tower double diaphragm tee joint NSD1-SA322 A/B weld joints 13, 15 and 16. ZPMC welders were noted utilizing Excalibur E9018M H4R, 4.8mm diameter electrode. The QA Inspector randomly observed ZPMC CWI Yu Dong Ping monitoring weld parameters. Fit-up/pre-assembly of 40mm/60mm web/stiffener plates to (bottom) tower double diaphragm NSD1-SA335 was also noted.

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Heat straightening was also observed on rib stiffener to deck panel DP727(A)-001 weld joints 001~006, edge panel EP176(A)-001 weld joints 001~012, 049 and 050, EP176(B)-001 weld joints 025~036, 051 and 052 and EP175(B)-001 weld joints 025~036, 051 and 052 due to welding distortion. Oxy-acetylene gas was used with thermal heat input of less than 650 degree C following procedure HSR1(B) – 2027, HSR1(B)-2037, HSR1(B)-2038 and HSR1(B)-2036 respectively.

Bay 7: OBG - Floor Beam Sub Assembly

This QA performed 10% MT OBG diaphragms FB012-002, FB011-002, FB015-014, FB010-003, FB012-006 and fb012-001.

The QA Inspector randomly observed ZPMC welder Zhang Qingquan ID Number 044774, utilizing the FCAW Process in the 3G(Vertical Groove) Position with ZPMC WPS WPS-B-T-2233-B-U2-F, to weld CJP fill pass on bottom flange splice butt joint FB059-003-095. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

This QA randomly observed ZPMC welder Hong Shuili ID Number 044815, utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H in the 1G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2231-Tc-U4b-F to weld CJP fill pass on flange to web plate tee joint of floor beam FB031-001 weld joints 125, 126 and 127. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring preheat and weld parameters.

Bay 8: Tower Diaphragm

This QA was informed by ABF/QA Kevin John that two SAW butt welded splice plates marked FB49A-X152A and FB52A-X152B were short of 30mm in width dimension. Splice weld joints affected were FB049-001-021/FB049-001-001 for plate FB49A-X152 and FB052-001-021/FB052-001-001 for plate FB52A-X152B. Per ZPMC, they will cut the affected weld joints and replace the short plates with the right one.

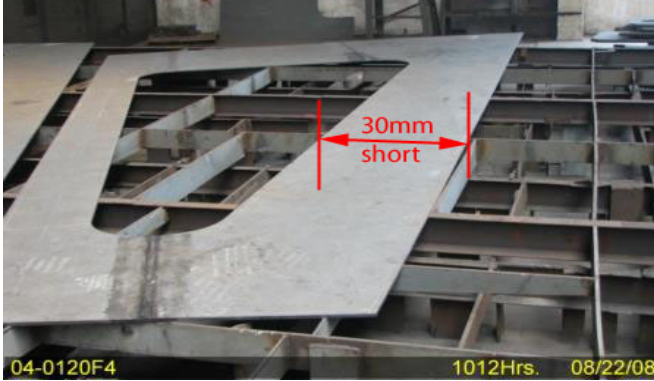
This QA observed ZPMC welder ID #067993, ID #066457, ID #066456 and ID #068924 SMAW(2G) PJP welding fill pass on 40mm web plate to (bottom) tower double diaphragm plate SSD1-SA169 B/B weld joints 5 and 6. ZPMC welders were noted utilizing Excalibur E9018M H4R, 4.8mm diameter electrode. The QA Inspector randomly observed ZPMC CWI Liu Hua Jie monitoring weld parameters.

The QA Inspector randomly observed ZPMC welder Xie Lian Fang ID Number 045247, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld the cover pass on plate splice butt joint of floor beam sub-assembly FB003-116-001. QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters.

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Bay 8: Floor Beam plate FB52A-X152B (been welded with another plate) being short by 30mm in width.



Bay 8: Floor Beam plate FB52A-X152A (that's been welded to another plate) being short by 30mm in width.



Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, (858) 232-7081, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Cuellar, Robert

QA Reviewer